FROLOV, A.F., kand. tekhn. nauk

Calculating the two-solvent extraction process. Khim. mash. no.6: 29-32 N-D '59. (MIRA 13:3)
(Extraction (Chemistry))

FROLOV, A.F. (Kiyev)

Treatment of acute dysentery with small doses of biomycin. Vrach. delo no.7:93-96 Jl '60. (MIRA 13:7)

1. Institut infektsionnykh bolezney AMN SSSR i kafedra infektsionnykh bolezney (zaveduyushchiy - prof. G.I. Khomenko) Kiyevskogo instituta usovershenstvovaniya vrachey.
(AUREOMYCIN) (DYSENTERY)

FROLOV, A. F., Cand Med Sci -- "Circulation of chlortetracycline chloride in the organism and its prevention of side effect in the treatment of patients with acute dysentery." Kiev, 1961. (Kiev Order of Labor Red Banner Med Inst im Acad A. A. Bogomolets)(KL, 8-61, 265)

FROLOV, A.F.; KOROTKOVA, V.N.

Equilibrium of the liquid - vapor system for a mixture of isoprene with hydrocarbons of the fraction C_5. Khim.prom. no.6: 376-378 Je '61. (MIRA 14:6)

1. Nauchno-issledovatel'skiy institut monomerov dlya SK, i Yaroslavskiy tekhnologicheskiy institut.
(Isoprene) (Hydrocarbons)

S/064/61/000/006/002/003
B110/B206

AUTHORS: Frolov, A. F., Korotkova, V. N.

TITLE: Equilibrium of the system liquid - vapor for mixtures of isoprene and hydrocarbons of the C_5 fraction

PERIODICAL: Khimicheskaya promyshlennost', no. 6, 1961, 6 - 8

TEXT: The separation of hydrocarbons of the C_5 fraction formed besides isoprene during dehydration of isopentane is difficult owing to the close vicinity of boiling points of the reaction products. It is the authors' aim to investigate the equilibrium of the system liquid - vapor of this mixture. Synthetic mixtures with α (3-methyl butene-1)-, β (2-methyl butene-2)-, and γ (2-methyl butene-1)-isoamylenes were investigated by РЛУ (RLU) refractometer (accuracy $\pm 2 \cdot 10^{-4}$) to determine the dependence of the refractive index n_D^{20} on the isoprene content. Since the isoprene determination in the isoprene-trans-1, 3-pentadiene mixture was impossible by means of the RLU refractometer owing to the close vicinity of the n-values,

Equilibrium of the system...

given in Tables 2-5. The relative volatility α and the activity coefficients γ were determined from equations: $\alpha = \left[y(1-x)\right]/\left[x(1-y)\right]$ and $\gamma = (P \cdot y)/(P^0 \cdot x)$, where P = partial pressure of the component under experimental conditions, P^0 = pressure of the pure, saturated vapor of the component at experimental temperature, and x and y = molar concentrations of the component in vapor and liquid. The saturated pressures of pure vapors were taken from publications (Ref. 4: Fiziko-khimicheskiye svoystva individual'nykh uglevodorodov, pod redaktsiyey M. D. Tilicheyeva, vyp. 3, Gostoptekhizdat, 1951). The activity coefficients of the hydrocarbons investigated were close to 1 (Tables), which indicates the ideality of the system and its conformance with Raoult's law over a great concentration range. The method by I. N. Bushmakin and Ye. D. Voyeykova (ZhOKh, 10, 1615 (1949)) was used for a more accurate qualitative checkup of the experimental results. The points of the curves $\alpha = f(x)$ for the hydrocarbons investigated lay on a straight line, which also indicates conformance with Raoult's law. There are 2 figures, 5 tables, and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Ref. 2: Ind. Eng. Chem., 49, no. 3, 414 (1957).

Card 3/9

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya SK (Scientific Research Institute of Monomers for Synthetic Rubber), Yaroslavskiy tekhnologicheskiy institut (Yaroslavl' Technological Institute)

Investigation of the conditions for .....

1954, 47, 863, 1955), H. E. Railsback and C. C. Biard (Ref. 3: Ind. Eng. Chem., 48, 1043, 1956), and V. L. Tsaylingol'd et al. (Ref. 4: Kauchuk i rezina, 9, 1958, 3, 1959, 9, 1959), or ion exchange resins in the manufacture of synthetic fibers. The raw material - MEP - is synthesized by Chichibabin's reaction between paraaldehyde and ammonia in liquid phase according to M. I. Faberov et al. (Ref. 5: Izv. Vuzov, Khim. i khim. tekhn., 5, 92, 1958) with a 70 - 73 % yield. The present experiments were carried out (in assistance of M. Yu. Tikhvinskaya and M. A. Loginova) by a method and with a laboratory assembly described in a prior paper (Ref. 11: ZhOKh, 30, 875, 1960). Vapor pressure and liquid - vapor equilibria in the system MEP - MVP was determined on an apparatus similar to Othmer's (Ref. 12: Ind. Eng. Chem., 45, 614, 1953) especially adapted for vacuum tests. Two catalysts were used: no. 1 based on ZnO and no. 2 on Fe_2O_3, containing 86 - 88 % of the basic component, some chromium oxide and small amounts of other components, which are not specified. Since considerable carbon deposition occurs during the dehydrogenation process, the catalyst had to be regenerated after 2 - 8 hours by passing an air-steam mixture at a maximum temperature of 650° - 700°C. Results of dehydrogenation experiments with steam as diluent in varying conditions are given in Table 1, It can be seen that the yield of MVP related to decomposition of MEP decreases with the contact time. This is apparently effected by

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side reactions and increasing carbon deposition. The latter depends on the type of catalyst and the degree of dilution by steam. Steam cannot be considered as inert diluent, since with increasing dilution by steam the yield of catalyzate and of MVP (based on decomposed MEP) decreases, in spite of the fact that the yield of MVP based on the amount of passed MEP increases (Figure 1). Also with increasing dilution by steam formation of gaseous products (CO_2, H_2, NH_3 etc) and the content of pyridines (α- and γ-picoline, 2,5-lutidine, 3-vinylpyridine) in the catalyzate increases. This can be explained by the reaction of pyridine bases with steam, resulting in a partial dealkylation of MEP and formation of pyridines, or total rupture of the pyridine ring with ammonia evolution. A similar reaction was observed by A. A. Baladin et al. (Ref. 8: DAN SSSR, 110, 79, 1956) on α-picoline. These side reactions of hydrolysis occur with different rates on various catalysts, thus influencing the selection of the latter. Results on dehydrogenation of MVP with other diluents are given in Table 3. The observed effect of benzene can be explained by the fact that no side reactions of hydrolysis occur. Although nitrogen does not show these side reactions, no desorption of pyridine bases from the catalyst is effected by nitrogen (contrary to benzene) resulting in thermal decomposition of these substances. Fractionation of the catalyzate at 20 torr demonstrated that the fraction boiling at 63 -

S/080/61/034/003/011/017
A057/A129

Investigation of the conditions for .....

ASSOCIATIONS: Institut monomerov dlya SK (Institute of Monomers for Synthetic Rubber) and Yaroslavskiy tekhnologicheskiy institut (Yaroslavl' Technological Institute)

SUBMITTED: June 6, 1960.

Table 1: Dehydrogenation of MVP on the catalysts no. 1 and no. 2 using steam as diluent. Legend: (1) no. of the catalyst, (2) temperature(°C), (3) nominal contact time, sec., (4) volume velocity of the MEP supply (in ml/ml catalyst per h), (5) molar ratio H_2O/ MEP, (6) yield of the catalyzate (weight %), (7) yield of MVP based on the MEP passed (mole %), (8) yield of MVP based on the MEP decomposed (mole %), (9) carbon deposit on the catalyst (mole % based on the MEP passed).

Card 5/9

S/076/61/035/008/009/016
B110/B101

AUTHORS: Frolov, A. F., Loginova, M. A., and Kiseleva, M. M.(Yaroslavl')

TITLE: Saturated vapor pressure and liquid - vapor equilibrium in the systems 2-methyl-5-vinyl pyridine and 2-methyl-5-ethyl pyridine

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 8, 1961, 1784-1788

TEXT: 2-methyl-5-vinyl pyridine (C_8H_9N) (MVP), is produced by condensation of paraldehyde with ammonia according to Chichibabin, and subsequent dehydrogenation of the resulting 2-methyl-5-ethyl pyridine ($C_8H_{11}N$) (MEP). Results yielded from the investigation of pressures of saturated MEP and MVP vapors as well as the respective vapor - liquid equilibria are given here. MEP in mixtures with hydrocarbons and oxygen-containing compounds was titrated with acid (methyl orange). MEP in mixtures with MVP was determined by a) refractive index (Abbe's refractometer). n_{20}^{D} as a function

of MVP content was determined with synthetic mixtures. b) bromide-bromate method. b) was used for checking a). Pure MEP and MVP were obtained from technical catalyzates by repeated vacuum rectification. 0.1% of inhibitor (elemental sulfur and metol) was added for a reduction of polymerization. The flask of a circulation apparatus of the type D. F. Otmer (Ind. Eng. Chem. 35, 614, 1953) was heated in an oil bath. In order to reduce condensation, an 8-10 mm asbestos layer was used to insulate the flask up to the cooler. 0.1 - 0.2% of inhibitor was added in case of over 40% MVP content in the liquid to be analyzed. Temperature and pressure control was performed by a special optical instrument with a maximum error of $0.1^{\circ}C$ and 0.1 mm Hg. The time required for making the instrument ready for operation was 2 hr which were sufficient for the vapor - liquid equilibrium to establish. 4 - 5 refractometric samples of 0.5 - 1.0 ml were taken every 10 - 15 min. The initial composition served as the initial phase, as the sampling did not practically change the concentration. Results are presented in Table 2. Boiling constancy was regulated on the basis of the number of drops (10 - 30 drops in 30 sec) of condensate from

cooler into the sampling vessel. The circulation rate of the liquid has practically no effect upon the thermometer indications.. The temperature dependences given in Tables 3 and 4 are described by Antoine's equation within the temperature and pressure ranges concerned with a maximum error of ±4%. For MEP: $\log p = 7.97 - 2234.1/(263 + t)$; for MVP: $\log p = 6.77 - 1369.0/(169 + t)$. The vapor - liquid equilibrium in the MEP - MVP system was determined at 20 mm Hg residual pressure corresponding to a boiling temperature of $\leqslant 80^{\circ}$C (Table 5). Little polymer was formed with inhibitor addition. For an accurate qualitative control of experimental data and for detecting small errors, the authors determined the concentration dependence of the relative volatility of the liquid in accordance with I. N. Bushmakin et al. (Zh. obshch. khimii, 19, 1615, 1949). The graphic representation showed, with some spread, a straight line for $\alpha = [y(100 - x)]/[x(100 - y)] = 1.67$. There are 2 figures, 5 tables, and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

SUBMITTED: December 11, 1959

Card 3/7

FROLOV, A.F.; ARONOVICH, Kh.A.

Optimum reflux ratio in the rectification process. Khim. i khim. tekh. 1:331-346 '62. (MIRA 17:2)

FROLOV, A.F.; STEPANOVA, V.A.

Calculation of the ratio of solvents in the countercurrent extraction. Khim. i khim. tekh. 1:347-354 '62. (MIRA 17:2)

ARONOVICH, Kh.A.; FROLOV, A.F.; KAZANKINA, E.I.

Liquid-liquid equilibrium in the system aqueous solution of dimethylformamide - isopentane - vinyltoluene - ethyltoluene. Khim. i khim. tekh. 1:315-329 '62. (MIRA 17:2)

ARONOVICH, Kh.A.; FROLOV, A.F.; KAZANKINA, E.I.

Equilibrium distribution of vinyltoluene and ethyltoluene in a two-solvent system. Neftekhimiia 2 no.3:305-312 My-Je '62. (MIRA 15:8)

1. Yaroslavskiy tekhnologicheskiy institut.
(Toluene) (Styrene)

FROLOV, A.F.; LOGINOVA, M.A.; USTAVSHCHIKOV, B.F.

Separation of methacrylic acid - water mixtures. Neftekhimiia 2 no.5:766-770 S-O '62. (MIRA 16:1)

1. Yaroslavskiy tekhnologicheskiy institut.
(Methacrylic acid)

S/076/62/036/010/004/005
B101/B186

AUTHORS: Frolov, A. F., Loginova, M. A., Saprykina, A. V., and Kondakova, A. B.

TITLE: Vapor - liquid equilibrium in the system methacrylic acid - water

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 10, 1962, 2282-2284

TEXT: The vapor - liquid equilibrium important for the production of pure methacrylic acid (MAA) was studied in an Othmer apparatus, in view of the fact that MAA when synthesized, or when regenerated from waste products, is always obtained in an aqueous solution. In solutions containing up to 10% MAA, the concentration was determined titrimetrically; in concentrated solutions it was determined from the refractive exponent. Either method had an accuracy of ± 0.5 relative %. Pure MAA was obtained by distillation at 5 mm Hg; crystallization was prevented by cooling the dephlegmator with water (30°C), and polymerization was suppressed by adding 0.01 - 0.1% hydroquinone or methylene blue. Data for pure MAA:

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Vapor - liquid equilibrium in the ...

m. p. 16°C, b. p. 49.5°C/10 mm Hg, d_4^{20} 1.016, n_D^{20} 1.4315. Polymerization could only be eliminated up to an MAA content of 65.9 mole% in the solution. The MAA content in the liquid and in vapor (mole%), the activity coefficients γ of MAA and water, and the coefficient α of the relative volatility (Table), were determined. An azeotropic mixture containing 23.1% by weight of MAA and 76.9% by weight of H_2O (b. p.: 99.3°C/760 mm Hg) was formed in the above system. There are 1 figure and 1 table.

ASSOCIATION: Yaroslavskiy tekhnologicheskiy institut
(Yaroslavl' Technological Institute)

SUBMITTED: March 19, 1962

Table. Legend: (1) Vapor temperature, °C/760 mm Hg; (2) mole% of MAA in the liquid; (3) mole% MAA in vapor; (4) γ of MAA; (5) γ of H_2O; (6) α.

RYASHENTSEV, N.P., kand.tekhn.nauk; FROLOV, A.F., inzh.; TIMOSHENKO, Ye.M., inzh.

Study of the permeance of the working gap of solenoid hammers with free running slugs. Vest.elektroprom. 33 no.12:71-73 D '62. (MIRA 15:12)

(Electromagnets)

L 13515-63 EPF(c)/EWP(j)/EWT(m)/BDS Pr-4/Pc-4 RM/WW

ACCESSION NR: AP3002779 S/0204/63/003/003/0413/0416

AUTHOR: Aronovich, Kh. A.; Frolov, A. F.; Kondakova, A. B.

TITLE: Equilibrium of liquid phases in the system 2-N-methylpyrrolidone (aqueous solution)-isopentane-vinylnaphthalene-ethylnaphthalene

SOURCE: Neftekhimiya, v. 3, no. 3, 1963, 413-416

TOPIC TAGS: methylpyrrolidone system, isopentane, vinylnaphthalene fractional extraction, ethylnaphthalene, 2-N-methylpyrrolidone

ABSTRACT: The results of a study of equilibrium distribution of vinylnaphthalene and ethylnaphthalene in the system of two solvents and the examination of the possibility of their separation by fractional extraction method are presented. The solvent used in this study was an aqueous solution of 2-N-methylpyrrolidone which is stable and has a good selectivity. It is also non-toxic. The two systems studied were: 2-N-methylpyrrolidone (AQ)-isopentane-ethylnaphthalene-vinylnaphthalene and 2-N-methylpyrrolidone (AQ)-isopentane-ethylnaphthalene. The interval of the investigated concentrations shows that a possible separation of ethylnaphthalene and vinylnaphthalene by fractional extraction exists. This can be done by using the vapors of 2-N-methylpyrrolidone (AQ)-isopentane as the solvent. Orig. art. has: 2 tables and 2 figures.

Card 1/2 ASSN: Yaroslavl' Technological Inst.

FROLOV, A.F.; LOGINOVA, M.A.; USTAVSHCHIKOV, B.F.

Liquid - liquid equilibrium in the system acetic acid - nitric acid - water - chloroform. Zhur. fiz. khim. 38 no.7:1837-1839 Jl '64. (MIRA 18:3)

1. Yaroslavskiy tekhnologicheskiy institut.

FROLOV, A.F.

New method of representing the equilibrium between two liquid phases of a four-component system. Dokl. AN SSSR 156 no. 3:622-6[illegible] '64. (MIRA 17:5)

1. Yaroslavskiy tekhnologicheskiy institut. Predstavleno akademikom N.M.Zhavoronkovym.

FROLOV, A.F.; YAROVIKOVA, M.M.; USTAVSHCHIKOV, B.F.; NIKITINA, N.S.

Liquid-liquid equilibrium in the system methyl methacrylate - methyl alcohol - water. Izv.vys.ucheb.zav.; khim.i khim.tekh. 8 no.4:570-573 '65. (MIRA 18:11)

1. Yaroslavskiy tekhnologicheskiy institut, kafedra tekhnologii osnovnogo organicheskogo sinteza i sinteticheskogo kauchuka.

FROLOV, A.F.; LOGINOVA, M.A.; USTAVSHCHIKOV, B.F.

Separation of mixtures of acetic and nitric acids. Zhur.prikl.khim. 38 no.6:1386-1389 Je '65. (MIRA 18:10)

1. Yaroslavskiy tekhnologicheskiy institut.

FROLOV, A.F.; BOGINOVA, M.A.; SHVETSOV, O.K.; USTAVTSHCHIKOV, B.F.

Liquid-vapor equilibrium in the system methyl alcohol - methyl methacrylate. Zhur. fiz. khim. 38 no.5:1303-1304 My '64. (MIRA 18:12)

1. Yaroslavskiy tekhnologicheskiy institut. Submitted June 7, 1963.

KALYUZHNAYA, L.D. [Kaliuzhna, L.D.]; FROLOV, A.F.

Characteristics of actinomycetes, the inhibitors of the growth of the tissue culture of malignant tumors. Mikrobiol. zhur. 27 no.5:10-16 '65. (MIRA 18:10)

1. Kiyevskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii.

COUNTRY : USSR Q
CATEGORY : Farm Animals. Poultry

ABS. JOUR. : RZBiol., No. 13, 1958, No. 59629

AUTHOR : Khripko, I. A.; Frolov, A. G.
INST. : -
TITLE : Economic Effectiveness of Various Systems of Poultry Farming

ORIG. PUB. : Ptitsevodstvo, 1957, No 11, 20-24

ABSTRACT : The "Adlerskaya" Poultry Farm (Krasnodarskiy Kray) applies open air and cage farming. In cage farming the average egg production was 2.5 eggs higher than under open air management. The aviary management of hens under the same spatial conditions as in cage farming has the advantage that hens benefit from exercise during which they perform more movements and are exposed to the influence of the fresh air and sun.

CARD: 1/1

FROLOV, A.G.

GRIBIN, A.A., FROLOV, A.G., YENIKEYEV, N.B., POLEZHAYEV, P.P.

"The Transportation of Ore and Earth to the Surface of Mine Shafts by Mono-Rail and Cable Telfers", Tsvet. Met. 14, No 2, Feb. 1939.

Report U-1506, 4 Oct. 1939.

FROLOV, A. G.

The setting up of cold storage places in mines Moskva, Gos. nauch.-tekhn. izd-vo gornotoplivnoi i neftianoi lit-ry, 1943. 70 p.
(50-43895)

TN817.F7

FROLOV, A. G.

Mining engineering buildings andinstallations in coal mines Moskva Ugletekhizdat Ministerstva Zapaduglia 1948. 259 p. (49-28445)

TH4561.F76

1. FROLOV, A. G.

2. USSR (600)

4. Technology

7. Technological complex of surface of shaft. Moskva, Ugletekhizdat, 1951.

9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassified.

FROLOV, A. G.

FROLOV, A. G. -- "Establishment of Methods and Main Locations for Designing Technological Complexes on the Surface of Coal Mines." Sub 12 Dec 52, Moscow Mining Inst imeni I. V. Stalin (Dissertation for the Degree of Doctor in Technical Sciences)

SO: Vechernaya Moskva January-December 1952

1. FROLOV, A. G.

2. USSR (600)

4. Coal - Handling Machinery

7. Fundamental improvements of the surface of coal mines. Mekh. trud. rab. 6, no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

FROLOV, A.G., doktor tekhnicheskikh nauk

Further improvement of mine surface installations. Ugol' 30 no.6:9-13 Je '55. (MIRA 8:8)

1. Vsesoyuznyy ugol'nyy institut.
(Mining engineering)

FROLOV, A.G.

81. USE OF HIGH PRESSURE HYDRAULIC TRANSPORT OF COAL AND ROCK IN MINES. Frolov, A.G. (Ugol (Coal, Moscow), Sept. 1955, 9-13). Low pressure schemes of hydraulic transport in the U.S.S.R. and abroad are described. One high pressure scheme has been carried out in the U.S.S.R. for transporting coal at 60 tons/h in one step from near the face of a mine 300 m deep to a preparation plant 3 km away. A diagram is shown of the feeder used for getting the coal into the high pressure system. It includes two 'locks' in parallel which are connected alternately to a screw feeder. It is compared with the plunger feeder used at Kadeevka and two other types designed in the U.S.S.R. A scheme is shown in which coal is crushed near the mine face, the rock separated from it and the remainder pumped to the surface in a solution of calcium chloride, where separation into clean coal and middlings take place. A scheme is also shown for rail-mounted plant which would move up behind the face, separate the rock from the coal and pump the latter to the surface in heavy liquid. Capital and running costs of the various schemes are compared with those for rail transport. (L).

Frolov, A. G.

FROLOV, A.G., doktor tekhn. nauk.

The radical improvement of the surface of coal mines. Mekh. trud. rab. 11 no.10:18-20 O '57. (MIRA 10:11)
(Coal mines and mining)

FROLOV, A.G., doktor tekhn. nauk; KOZLOVSKIY, S.I., kand. tekhn. nauk.

Loading coal into mine cars without hoppers. Ugol' 32 no.10:36-38 O '57. (MIRA 10:11)

(Coal handling machinery)

SPIVAKOVSKIY, Aleksandr Onisimovich,; FROLOV, Anatoliy Grigor'yevich,; STREL'NIKOV, L.P., otv. red.; SHOKOKHOVA, A.V., red. izd-va,; KOROVENKOVA, Z.A., tekhn. red.; SABITOV, A., tekhn. red.

[Equipment for mine transportation; atlas of designs] Oborudovanie rudnichnogo transporta; atlas konstruktsii. Moskva, Ugletekhizdat. Pt. 3. [Transportation on the mine surface] Transportnoe oborudovanie poverkhnosti shakht. 1958. 106 p. (MIRA 11:12)
(Coal handling)

FROLOV, A.G., doktor tekhn.nauk

Reducing losses due to coal pulverization. Ugol' 34 no.5:45-47 My '59. (MIRA 12:5)
(Coal handling machinery) (Coal mines and mining)

FROLOV, A.G., doktor tekhn.nauk; BORISENKO, L.D., kand.tekhn.nauk; TYURKIN, M.N., inzh.; ZHILIN, A.M., inzh.; RABINOVICH, Yu.M., inzh.; POLOSUKHIN, A.Ya., inzh.

Loading machines for high-pressure hydraulic conveying of coal and rocks. Ugol' Ukr. 3 no.10:13-16 O '59.
(MIRA 13:2)

(Hydraulic mining) (Mine haulage)

FROLOV, A.G., doktor tekhn. nauk; TRAYNIS, V.V., kand. tekhn. nauk; PSHENICHNYY, I.D., inzh.; CHAPLIN, B.N., inzh.

Hydraulic haulage of lump coal in a stream of coal slurry. Ugol' 34 no.6:5-9 Je '59. (MIRA 12:8)
(Hydraulic mining) (Mine haulage)

FROLOV, A.G., doktor tekhn. nauk

Use of high pressure hydraulic conveying systems for a radical improvement of mine surfaces, hoisting and underground haulage. Ugol' 34 no.6:10-15 Je '59. (MIRA 12:8)
(Hydraulic mining--Equipment and supplies)
(Coal mines and mining)

BUCHNEV, V.K., prof., doktor tekhn. nauk; KALININ, R.A., dotsent; KORABLEV, A.A., kand. tekhn. nauk; MONIN, G.I., inzh.; BELYAYEV, V.S., kand. tekhn. nauk; MERKULOV, V.Ye., inzh.; ALEKSEYENKO, V.D., inzh.; IL'SHTEYN, A.M., kand. tekhn.nauk; GELESKUL, M.N., kand. tekhn.nauk; KOBISHCHANOV, M.A., kand. tekhn.nauk; DOBROVOL'SKIY, V.V., kand. tekhn. nauk; MALYSHEV, A.G., inzh.; VOROPAYEV, A.F., prof., doktor tekhn. nauk; LIDIN, G.D., prof., doktor tekhn.nauk; TOPCHIYEV, A.V., prof.; VEDERNIKOV, V.I., kand. tekhn.nauk; KUZ'MICH, I.A., kand. tekhn. nauk; LEYTES, Z.M., inzh.; SYSOYEVA, V.A., kand. tekhn. nauk; MELAMED, Z.M., kand. tekhn.nauk; CHERNAVKIN, N.N., inzh.; KARPILOVICH, M.Sh., inzh.; MEL'KUMOV, L.G., inzh.; BOGOPOL'SKIY, B.Kh., inzh.; FROLOV, A.G., doktor tekhn.nauk; KHVOSTOV, F.K., inzh.; BAGASHEV, M.K., kand. tekhn. nauk; KAMINSKIY, I.N., inzh.; PETROVICH, T.I., inzh.; ZHUKOV, V.V., red. izd-va; LOMILINA, L.N., tekhn. red.; PROZOROVSKAYA, V.L., tekhn. red.

[Mining engineers' handbook]Spravochnik gornogo inzhenera. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1960. (MIRA 14:1)

(Mining engineering--Handbooks, manuals, etc.)

KUZ'MICH, A.S.; GOL'DIN, M.A.; SHPARBERG, Ye.M.; FROLOV, A.G.

Hydraulic hoisting system with an AZV-1 loading machine in the No.1 "XIX Parts"ezd" Mine of the Leninugol' Trust. Ugol' 35 no.1:35-39 Ja '60. (MIRA 13:5)

1. Luganskiy sovnarkhoz (for Kuz'mich, Gol'din). 2. Kuznetskiy filial Giprouglemasha (for Shparberg). 3. Institut gornogo dela AN SSSR (for Frolov).
(Luganek Province--Mine hoisting)
(Hydraulic mining)

FROLOV, A.G., doktor tekhn.nauk; KOZLOVSKIY, S.I., kand.tekhn.nauk

Over-all mechanization of operations on mine surfaces. Izv. vys. ucheb. zav.; gor. zhur. no.12:3-14 '60. (MIRA 14:1)

1. Institut gornogo dela Akademii nauk SSSR.
(Mining engineering--Equipment and supplies)

SOLODOVNIK, F.S.; BOGOMOLOV, A.V.; ZHURAVSKIY, Yu.V.; FROLOV, A.G.

Electromagnetic metal sheet distributor. Biul.TSIICHM no.4:51 '61. (MIRA 14:10)

(Electromagnets)

FROLOV, A. G., doktor tekhn. nauk

Vibrating loaders. Mekh. i avtom. v gornoi prom. no.2:128-144 '62. (MIRA 16:1)

(Coal handling machinery)

FROLOV, A. G., doktor tekhn. nauk

Coefficient of efficiency of hydraulic hoists for deep mines.
Mekh. i avtom. v gornoi prom. no.2:185-190 '62.
(MIRA 16:1)

(Hydraulic conveying)

FROLOV, A.G.; KOZLOVSKIY, S.I.; MELAMED, Z.M.; GERCHIKOV, I.S.; UVAROV, S.G.; ZVENIGORODSKAYA, G.V.; KOSTAN'YAN, A.Ya., red.izd-va; SHEVCHENKO, G.N., tekhn. red.; PRUSAKOVA, T.A., tekhn. red.

[Principles for the improvement of industrial complexes on mine surfaces] Osnovy sovershenstvovaniia tekhnologicheskikh kompleksov poverkhnosti shakht. [By] A.G.Frolov i dr. Moskva, Izd-vo AN SSSR, 1963. 135 p. (MIRA 16:12)

1. Moscow. Institut gornogo dela.
(Mine buildings)

FROLOV, A.G., doktor tekhn. nauk, otv. red.; KISELEV, V.N., red. izd-va; DOROKHINA, I.N., tekhn. red.

[Loaders for high-pressure hydraulic transportation of loose materials] Zagruzochnye apparaty dlia vysokonapornogo gidravlicheskogo transporta sypuchikh materialov. Moskva, Izd-vo AN SSSR, 1963. 181 p. (MIRA 16:10)

1. Moscow. Institut gornogo dela im. A.A.Skochinskogo.
(Hydraulic conveying--Equipment and supplies)

FROLOV, Anatoliy Grigor'yevich, doktor tekhn. nauk; GERONT'YEV, V.I., doktor tekhn. nauk, prof., retsenzent; VYSOKOSOV, I.I., otv. red.; KOSTAN'YAN, A.Ya., red.izd-va; BOLDYREVA, Z.A., tekhn. red.

[Surface layout for undrground and open-pit mines] Ustroistvo poverkhnosti shakht i kar'erov. Moskva, Gosgortekhizdat, 1963. 362 p. (MIRA 16:7)
(Mine buildings) (Mine haulage)

FROLOV, A.G., doktor tekhn. nauk

Mining industry. Mekh. i avtom. proizv. 17 no.6:4-8 Je '63.
(MIRA 16:7)

(Mining machinery) (Materials handling)

FROLOV, A.G., doktor tekhn.nauk

Creating apparatus for transporting coal and rocks in pipes without a conveying medium. Mekh. i avtom. v gor. prom. no.3:180-191 '63. (MIRA 16:10)

L 51075-65 EWG(j)/EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/EPF(n)-2/EWA(d)/EPR/EPA(w)-2/T/EWP(t)/EWP(b) Pab-10/Pr-4/Ps-4/Pt-7/Pu-4 IJP(c) JD/WW/JG/WB/WH

ACCESSION NR: AP5010417 UR/0131/65/000/004/0042/0044

AUTHOR: Luzgin, V.P.; Frolov, A.G.; Vishkarev, A.F.; Yavoyskiy, V.I.; Vinogradova, L.V.; Rutman, D.S.

TITLE: Nature of the conductivity of MgO and alumina

SOURCE: Ogneupory, no. 4, 1965, 42-44

TOPIC TAGS: metal oxide conductivity, magnesium oxide, alumina, high temperature conductivity, sintered magnesia, sintered corundum, liquid metal oxidation, casting control

ABSTRACT: To determine the nature of the conductivity of the solid oxides MgO and Al_2O_3 at high temperatures, use was made of sintered MgO and sintered corundum which acted as electrolytes in the following galvanic concentration cell: Fe-O-C MgO or Al_2O_3 Fe-O-C saturated (see Fig. 1 of the Enclosure). With MgO as the solid electrolyte, the measurements were made at 1600C; at this temperature the fraction of n-type conductivity was found to be only 3%. The conductivity of MgO is therefore almost entirely ionic. In the case of Al_2O_3, its conductivity was 29% n-type at 1600C and 24% n-type at 1650C. On the basis of the galvanic concentration cell thus tested, a sensing device was constructed

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L 51075-65

ACCESSION NR: AP5010417

for determining the oxidizability of a liquid metal in the course of melting, discharge, and casting. Determination of the activity (content) of oxygen in a melt offers extensive prospects for the control of industrial processes and makes it possible to exert a considerable influence on the quality of the metal, which depends substantially on the oxygen content. Orig. art. has: 1 figure, 1 table, and 6 formulas.

ASSOCIATION: [Luzgin, Frolov, Vishkarev, Yavoyskiy] Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys); [Vinogradova, Rutman] Podol'skiy zavod ogneupornykh izdeliy (Podol'sk Refractory Materials Plant)

SUBMITTED: 00 ENCL: 01 SUB CODE: MT, MM

NO REF SOV: 006 OTHER: 003

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000513730011-0"

L 51075-65
ACCESSION NR: AP5010417

ENCLOSURE: 01

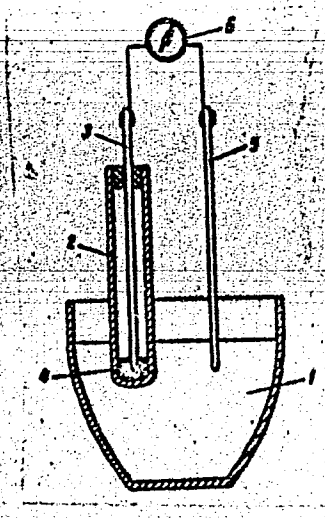

Fig. 1. Diagram of the testing of oxides: 1 - metal being studied; 2 - MgO or Al_2O_3; 3 - graphite; 4 - cast iron; 5 - tungsten; 6 - measuring device.

Card 3/3

FROLOV, A.I., kand.tekhn.nauk

Determining altitudes of the surface relief underlying the ice sheet of Antarctica on the basis of geophysicall data. Inform. biul. Sov. antark. eksp. no.16:18-22 '60. (MIRA 13:12)

1. Gosudarstvennyy astronomicheskiy institut.
(Antarctic regions—Submarine topography)

FROLOV, A. I., kand. tekhn. nauk

Plumb-line deflections in Antarctica. Inform. biul. Sov. antark. eksp. no.17:22-24 '60. (MIRA 13:12)

1. Gosudarstvennyy astronomicheskiy institut.
(Antarctic regions--Plumb-line deflections)

FROLOV, A.I., kand.tekhn.nauk; KORYAKIN, Ye.D., starshiy inzh.

Gravimetric investigation of the relief under ice in the region of the Lazarev Station. Inform. biul. Sov. antark. eksp. no.23:33-36 '60. (MIRA 14:5)

1. Gosudarstvennyy astronomicheskiy institut i Nauchno-issledovatel'skiy institut geologii Artiki.
(Lazarev region, Antarctica—Gravimetry)

TSUKERNIK, V.B., mladshiy nauchnyy sotrudnik; FROLOV, A.I., kand.tekhn.nuak; STROYEV, P.A., starshiy inzhener

Structure of the Pobeda ice island based on geophysical data. Inform. biul. Sov. antark eksp. no.37:29-33 '62. (MIRA 16:4)

1. Institut fiziki Zemli AN SSSR i Gosudarstvennyy astronomicheskiy institut.
(Shackleton ice shelf region—Geophysics—Observations)

GRUSHINSKIY, Nikolay Panteleymonovich; MIKHAYLOV, A.A., retsenzent;
BROVAR, V.V., nauchn. red.; FROLOV, A.I., red.;
LIKHACHEVA, L.V., tekhn. red.

[Theory of the figure of the earth] Teoriia figury Zemli.
Moskva, Fizmatgiz, 1963. 446 p. (MIRA 16:12)
(Earth--Figure)

TSUKERNIK, V.B.; FROLOV, A.I.; STROYEV, P.A.

Seismic and grametric studies in the West Shelf Ice in Antarctica. Izv. AN SSSR. Ser. geofiz. no.6:907-921 Je '63. (MIRA 16:7)

1. Institut fiziki Zemli AN SSSR i Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(West shelf ice--Seismic prospecting)
(West shelf ice--Gravity prospecting)

TSUKERNIK, V.B., mladshiy nauchnyy sotrudnik; FROLOV, A.I., kand. tekhn. nauk; STROYEV, P.A., starshiy inzh.

Using seismic and gravimetric methods to study the sub-ice relief of the West Shelf Ice. Inform. biul. Sov. antark. eksp. no.40: 19-24 '63. (MIRA 16:7)

1. Institut fiziki Zemli AN SSSR i Gosudarstvennyy astronomicheskiy institut.

(West Shelf Ice--Land forms)
(Prospecting--Geophysical methods)

ACCESSION NR: AT4038533 S/2623/63/000/128/0003/0007

AUTHOR: Frolov, A. I.

TITLE: Allowance for disturbing accelerations during determination of the force of gravity at sea level from surface vessels

SOURCE: Moscow. Univ. Gos. astron. inst. Soobshch., no. 128, 1963, 3-7

TOPIC TAGS: gravity, gravimetry, gravimetric survey, marine gravimetric survey, geophysics

ABSTRACT: Investigations made by the Gosudarstvenny*y astronomicheskiy institut (State Astronomical Institute) have shown that gravity measurements with pendulum instruments can be made at sea when wave action is up to class 4. The vertical component of the disturbing accelerations can be determined quite reliably from the readings of a vertical accelerometer and from fluctuations of the time mark on the record of pendulum oscillations. However, the recording of the horizontal components has been done reliably only in the case of wave action not greater than class 2. On many research expeditions, no corrections for disturbing accelerations have been introduced into gravity readings, or this has been done by approximate methods; evaluation of corrections has been done arbitrarily. However, analysis

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ACCESSION NR: AT4038533

of the results has shown that the value of the horizontal component of disturbing accelerations is obviously a function of the vertical component: $\Delta g_{xy} = F(\Delta g_z)$. A method is described which makes it possible to evaluate the error in introduced corrections at all stations more objectively and to obtain corrections of adequate accuracy even at those stations at which the horizontal components could not be determined directly from the record of slow pendulums. General formulas are presented for this purpose. It is also shown that the ratio of the horizontal to the vertical components of disturbing accelerations is a function of the displacement of the vessel. The influence of placement of the instruments relative to the principal axes of the ship also is discussed. Orig. art. has: 9 formulas, 1 figure and 1 table.

ASSOCIATION: Gosudarstvenny*y astronomicheskiy institut Moskovskogo universiteta (State Astronomical Institute of Moscow University)

SUBMITTED: 00 DATE ACQ: 18Jun64 ENCL: 00

SUB CODE: ES NO REF SOV: 003 OTHER: 000

Card 2/2

GLADUN, V.A.; STROYEV, P.A.; USHAKOV, S.A.; FROLOV, A.I.

Geophysical studies of the earth's crust in the transition zone from Antarctica to the Indian Ocean in the area between 55° and 100°E. Dokl. AN SSSR 153 no.2:427-428 N '63. (MIRA 16:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom D.I.Shcherbakovym.

L 27909-65 EWT(1)/EWG(v) Po-4/Pq-4/Pe-5/Pg-4 GW
ACCESSION NR: AT5001793 S/2623/64/000/135/0043/0057

28
B+1

AUTHOR: Frolov, A.I.

TITLE: The gravitational field of the Antarctic and isostasy

SOURCE: Moscow. Universitet. Gosudarstvennyy astronomicheskiy institut. Soobshcheniya, no. 135, 1964, 43-57

TOPIC TAGS: isostasy, gravity measurement, antarctic gravity, ice field, Faye anomaly, Bouguer anomaly, earth crust

ABSTRACT: Because of its heavy ice-loading, the Antarctic continent is of special interest in connection with isostasy. The inadequacy of evidence as to the isostatic state of the earth's crust in Antarctica is first discussed in terms of the size of Faye's anomaly, data from non-iceloaded regions being considered inadmissible. One of the difficulties in Antarctic investigations is the great distance between routes of expeditions, necessitating that the gravitational field and crustal structure be determined from the Faye and Bouguer anomalies of neighbouring regions. The author has calculated isostatic reductions for the region and mapped the icefields and subjacent relief from aerial, seismic and gravimetric studies. After discussing the adequacy of the maps presented,

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L 27909-65
ACCESSION NR: AT5001793

the basis for calculation of isostatic anomalies is outlined. It is concluded that the mean value of isostatic anomalies is zero within the accuracy of the determination and that the mean value of the Faye regional anomalies differs little from the mean of the isostatic anomalies. It is concluded that there is complete isostatic compensation of the continent. Orig. art. has: 7 formulas, 3 tables and 3 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 012 OTHER: 000

Card 2/2

FROLOV, A.I.

Gravitational field and some features of the crustal structure of Antarctica. Izv. AN SSSR Ser. geofiz. no.10:1448-1461 O '64. (MIRA 17:11)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.

STROYEV, P.A., starshiy inzhener; FROLOV, A.I., kand.tekhn.nauk; TSUKERNIK, V.B., mladshiy nauchnyy sotrudnik

Structure of the relief under the ice in the Mirnyy region. Inform. biul. Sov. antark.eksp. no.49:24-28 '64. (MIRA 18:5)

1. Gosudarstvennyy astronomicheskiy institut imeni Shternberga, Moskva.

FROLOV, A.I.

Gravity field of the Antarctide and the isostasy. Soob. GAISH no.135:43-57 '64. (MIRA 17:8)

FROLOV, A.I.

Gravity anomalies in Antarctica as a function of altitude. Izv. AN SSSR. Fiz. zem. no.3:82-93 '65. (MIRA 18:7)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga.

[illegible], [illegible]; [illegible], A.[illegible],

Isostasy of Antarctica. Dokl. AN SSSR 160 no.[illegible] F '65. ([illegible]RA 18:2)

1. Predstavleno akademikom D.I. Shcherbakovym.

STROYEV, P.A.; FROLOV, A.I.; TSUKERNIK, V.B.

Subgalcial topographic structure of the region of the Antarctic station Mirnyi according to geophysical data. Izv. AN SSSR. Fiz. zem. no.1:121-126 '65. (MIRA 18:5)

1. Gosudarstvennyy astronomicheskiy institut imeni Shternberga.

L 61500-65 EWT(1)/EWG(v) Po-4/Pe-5/Pq-4/Pg-4 GW
ACCESSION NR: AP5017030 UR/0387/65/000/003/0082/0093
550.312(99)

27
26
B

AUTHOR: Frolov, A. I.

TITLE: Dependence of gravity anomalies in Antarctica on elevation. 1. Some ways of approximate study of the earth's gravity field and of isostasy

SOURCE: AN SSSR. Izvestiya. Fizika zemli, no. 3, 1965, 82-93

TOPIC TAGS: gravity anomaly, isostasy

ABSTRACT: It is pointed out that free-air reduction without consideration of topography gives erroneous results, and that interpolation without this consideration becomes impossible. An empirically derived elevation correction has been used in Antarctica, and this has permitted interpolation and extrapolation for considerable distances with satisfactory reliability. An established connection between isostatic anomalies and the corrected free-air anomalies (free-air anomaly minus correction factor) permits simple and quick computation of the approximate isostatic anomaly in Antarctica with an average error on the order of ± (10-15) mgals with only a small number of control stations. The topographic-isostatic reduction, or the difference between isostatic and free-air anomalies, was found

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L 61500-65
ACCESSION NR: AP5017030

to be clearly dependent on the effective elevation of the station in three districts on Antarctica, and this allowed determination of the topographic-isostatic reduction at any locality within the districts with an average error of ± 11 mgals. The results of these Antarctic studies permit one to use an approximation method for studying the earth's gravity field and for investigating isostasy in little-studied regions with an accuracy sufficient for many purposes. The method is especially applicable to investigation of broad structures and major tectonic features. An isostatic anomaly map of Antarctica is shown in Fig. 1 on the Enclosure. Orig. art. has: 5 figures and 4 formulas.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut im. P. K. Shternberga (State Astronomical Institute)

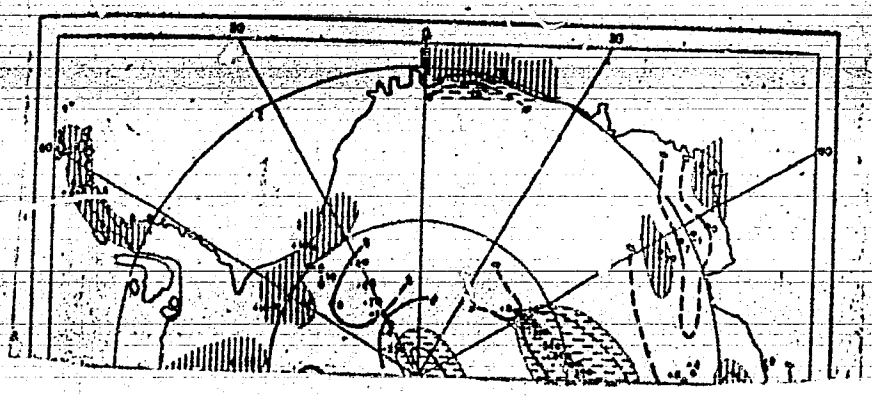
SUBMITTED: 19Jun64 ENCL: 02 SUB CODE: ES

NO REF SOV: 010 OTHER: 002

Card 2/4

L 61500-65
ACCESSION NR: AP5017030

ENCLOSURE: 01



to 4/4

Card 3/4

L 61500-65

ACCESSION NR: AP5017030

ENCLOSURE: 02

from 3/4

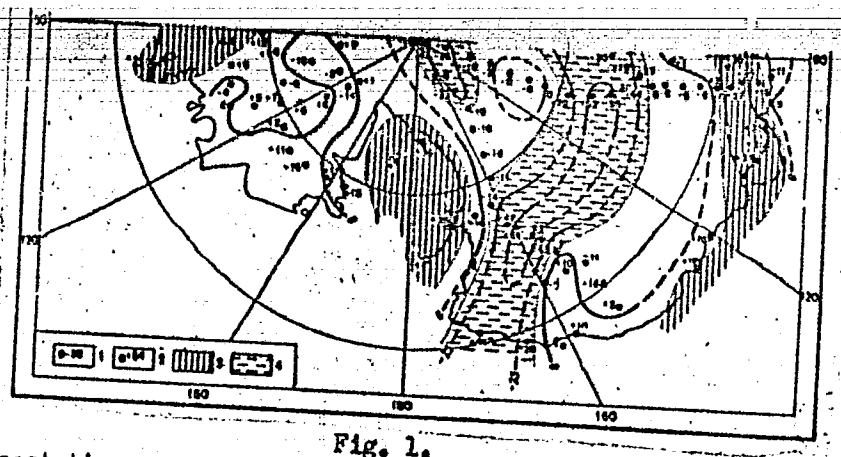


Fig. 1.

Isostatic anomalies of Antarctica, averaged over a radius of 167 km.

1- stations with averaged values; 2- stations with values not averaged; 3- $\Delta g < -13$ mgals; 4- $\Delta g > +13$ mgals.

Cord 4/4

L 41359-66 EWT(m)/EWP(j) WW/RM

ACC NR: AP6022888 SOURCE CODE: UR/0078/66/011/004/0708/0713

52
51
B

AUTHOR: Devyatykh, G. G.; Frolov, I. A.

ORG: none

TITLE: Kinetics of thermal decomposition of monogermane

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 4, 1966, 708-713

TOPIC TAGS: thermal decomposition, germanium compound, metal film

ABSTRACT: The reaction of thermal decomposition of monogermane on the surface of a germanium film was studied in the range of 289-379°. The reaction proceeds along two parallel paths. A zero-order reaction takes place on the surface and depends on the nature of the latter. The germanium film catalyzes the thermal decomposition of monogermane. As the surface increases and the temperature is lowered, the zero-order reaction predominates. A first-order reaction becomes appreciable as the temperature is raised and the volume of the reaction vessel increases. The high activation energy during the induction period leads to the conclusion that the induction period is due to the generation of active centers on the surface of the reaction vessel. This in turn accounts for the higher value of the rate constant of the homogeneous reaction in a vessel whose walls are covered with a germanium film. Authors thank N. V. Moskvina for assistance in carrying out the experiment, and Yu. L. Ketkov and

Card 1/2 UDC: 546.289'11

L 42880-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6022889 SOURCE CODE: UR/0078/66/011/004/0714/0719

AUTHOR: Devyatykh, G. G.; Frolov, I. A.; Agliulov, N. Kh.

ORG: none

TITLE: Preparation of high-purity monogermane

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 4, 1966, 714-719

TOPIC TAGS: germanium compound, high purity metal, rectification

ABSTRACT: A method for preparing high-purity monogermane containing less than 1 x 10^{-4}% impurities is described. The source of the impurities are thought to be the chloro derivatives of carbon present in $GeCl_4$. Monogermane was obtained by reducing commercial $GeCl_4$ with an aqueous $NaBH_4$ solution, and the impurities present were determined by mass spectrometry. The impurities (methane, ethane, ethylene, arsine) were removed from monogermane by rectification and their relative volatilities were determined for various concentrations in the systems C_2H_4-GeH_4, AsH_3-GeH_4, and C_2H_6-GeH_4. All the solutions obeyed Henry's law at low concentrations, but did not obey Raoult's law, with the exception of the solution of ethylene in monogermane. The relative volatilities were found to be sufficiently high to allow the use of rectification for a thorough removal of these impurities from monogermane. Orig. art. has: 6 figures, 2 tables, and 2 formulas.

SUB CODE: 07/ SUBM DATE: 16Jun65/ ORIG REF: 004/ OTH REF: 005

Card 1/1 UDC: 546.289'11.05

ACC NR: AT6028014 SOURCE CODE: UR/0000/63/000/000/0003/0018

AUTHOR: Frolov, A. I.

ORG: none

TITLE: Gravimetric works of the GAISH during the third Soviet Antarctic expedition in 1957/1958

SOURCE: Moscow. Universitet. Astronomicheskiy institut. Geologicheskiy fakul'tet. Morskiye gravimetricheskiye issledovaniya; sbornik statey, no. 2, 1963, 3-18

TOPIC TAGS: ~~pendulum apparatus~~, gravimeter, barometric leveling, ~~vertical acceleration~~, gravimetric measurement, quartz clock, research ship instrumentation, gravimeter, gravimetric survey, geographic expedition, geophysics expedition, research ship

ABSTRACT: Marine gravimetric measurements in the Southern Hemisphere have been performed in the third Antarctic expedition of the State Astronomical Institute im. Shternberg on the research vessel "Ob'." Measurements were carried out in the ocean and on the shores of Antarctica. The expedition was equipped with three and four pendulum apparatuses, a gravimeter, and a quartz clock built in the State Astronomical Institute. Gravimetric measurements on the continent and glaciers were made by gravimeter and pendulum instruments. Altitudes of measurement points were determined by barometric leveling. The accuracy of these measurements in Antarctic conditions is low. A special problem for evaluation of results obtained was the influence of errors in direct measurements. Errors may occur in the determination

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ACC NR: AT6028014

of the point position on the globe, altitude determination, and instrument readings. All kinds of mean quadratic errors are given in a table. Higher waves impede measurements. The vertical acceleration in high waves must be determined, and its influence on gravity results must be taken into consideration. Some formulas are developed for computation of the influence of vertical acceleration. The mean quadratic error for various observation points is from ± 1.4 to 10.3 mg. The expedition on the research vessle "Ob'" performed gravimetric measurements in 192 points on dry land, shelf ice, and at sea. Orig. art. has: 3 figures, 11 tables and 7 formulas.

SUB CODE: 08/ SUBM DATE: 22Nov63/ ORIG REF: 004

Card 2/2

ACC NR: AT3028015 SOURCE CODE: UR/0000/63/000/000/0019/0034

AUTHOR: Frolov, A. I.

ORG: none

TITLE: Gravimetric work of the GAISH during the fifth Soviet Antarctic Expedition in 1959-1960

SOURCE: Moscow. Universitet. Astronomicheskiy institut. Geologicheskiy fakul'tet. Morskiye gravimetricheskiye issledovaniya; sbornik statey, no. 2, 1963, 19-34

TOPIC TAGS: barometric leveling, ocean trench, meteorologic condition, vertical component, accelerometer, ~~accidental error~~, gravity acceleration, ~~Eötvös effect~~, gravimetry, oceanographic expedition, geologic survey

ABSTRACT: Gravimetric investigations in Antarctica during 1959--1960 were made by the fifth Soviet Antarctic expedition in which A. I. Frolov and Ye. . Kopyakin participated from the State Astronomic Institute im. P. K. Shternberg. The fundamental observation point in Antarctica for the expedition was Lazarev, built in 1958 on a glacier. The task of the expedition was the investigation of the glacier and gravimetric measurements on continent and at sea. Observations were made at 29 points in the region of Lazarev Station and at one point on the mountain range "Voltat," 150 km from Lazarev. Deep-sea observations were carried out on the research vessel "Ob'." Observations were made at a total 146 points. Altitudes of observation points were determined by barometric leveling. Gravimetric measurements

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ACC NR: AT6028015

revealed that the glacier on which Lazarev Station stands floats on a long ocean trench, the maximum depth of which was found to be about 750 m. In December and January meteorological conditions were favorable for deep-sea observations. Corrections for the vertical component of the perturbing acceleration were determined from second fluctuations in gravity records and records of the accelerometer. The mean random error in the vertical component of the perturbing acceleration was determined from differences between the gravity records and the records of the accelerometer. Its value was equal to ±6 mgl. A special formula was developed for determining the error caused by changes of the pendulum lengths. The gravity acceleration at any point of observation in deep seas is determined by the formula

$$g_i = g_1 + k(S_i - S_1) + \frac{\theta_i - \theta_1}{\theta_2 - \theta_1}[(g_2 - g_1) - k(S_2 - S_1)],$$

where g_i is the local gravity acceleration, g_1 the gravity at the initial point, and g_2 the gravity at the end point of the series; S_i, S_1, and S_2 are the mean values of pendulum readings as the local point and at the initial and end points; θ_i, θ_1, and θ_2 are the Eötvös effects in the corresponding points; the coefficient k is equal to 24.634 mg for one division of the scale. The mean quadratic error in the gravity acceleration computed from data of pendulum and gravimeter measurements was found to be ±5.2 mg. The expedition performed measurements of many points where no observations had been made previously. Orig. art. has: 1 figure, 14 tables, and 12 formulas.

SUB CODE: 08/ SUBM DATE: 22Nov63/ ORIG REF: 003/
Card 2/2

GLADUN, V.A.; ISAYEV, Ye.N.; KORYAKIN, Ye.D.; STROYEV, P.A.; USHAKOV, S.A.; PROLOV, A.I.

Results of the crustal geophysical investigations of Antarctica in the Enderby Land region. Dokl. AN SSSR 158 no.2:345-347 S '64.
(MIRA 17:10)

1. Moskovskiy gosudarstvennyy universitet i Nauchno-issledovatel'skiy institut geologii Arktiki. Predstavleno akademikom D.I.Shcherbakovym.

FEOLOV, A. I.

"Local Schools of Clupea Harangus Pallasi C.V.," Dokl. AN SSSR, 69, No.6, 1949

Sakhalin Section, Pacific Ocean Sci.Res. Inst. Fish Economy and Oceanography

FROLOV, Anatoliy Ivanovich; KHODANOVICH, L.B., red.; PYLAYEVA, L.N., tekhn. red.

[Practices in growing transportable grape varieties on the state farms of Tashkent Province] Opyt vyrashchivaniia transportabel'nykh sortov vinograda v sovkhzakh Tashkentskoi oblasti. Tashkent, M-vo sel'khoz UzSSR, 1962. 26 p. (MIRA 16:5)

(Tashkent Province--Grapes--Varieties)

FROLOV, A.I.

KIRILLOV, M.N., professor; POZHIDAYEV, A.A., assistent; FROLOV, A.I., vetvrach.

Early partial and total castration of roosters, turkey cocks and gilts. Veterinariia 34 no.8:61 Ag '57. (MIRA 10:9)

1. Omskiy veterinarnyy institut.
(Castration) (Poultry) (Sows)

FROLOV, A.

LYUTIKOV, A.F.; FROLOV, A.I.

[Organization, method of operation and introduction of standards] Organizatsiia i metodika razrabotki i vnedreniia normalei. M., Sovetskoe radio, 1951. (MLRA 8:5)
(Standardization)

ZHURAVLEV, M.S., kand. sel'khoz. nauk; KOVALEV, N.V., kand. sel'khoz. nauk; KONAKHOV, G.V.; MUKHAMEDOV, G.K.; TATAUROVA, A.S.; TUZ, A.S.; TUPITSYN, D.I.; FROLOV, A.I.; VYSOTSKIY, K.A., kand. sel'khoz. nauk, red.; PAVLOVA, N.M., doktor biol. nauk, red.; KUL'TISOV, N.V., kand. sel'khoz. nauk, red.; PYLAYEVA, L.N., red.; SOROKINA, Z.I., tekhn. red.

[Catalog of the prospective varieties of fruit, berry, and grape crops in the collection of the Central Asia Experiment Station of the All-Union Institute of Plant Culture] Katalog perspektivnykh sortov plodovo-iagodnykh kul'tur i vinograda v kollektsii Sredneaziatskoi opytnoi stantsii. Tashkent, Vses. nauchno-issl. in-t rastenievodstva, 1961. 123 p. (MIRA 16:12)

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Mechanized hoists used for removing unhaired hides from lime vats. Obm.tekh.opyt. [MLP] no.26:28-30 '56. (MIRA 11:11)
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[Photochemical method of preparing printed circuits] Fotokhimicheskii sposob izgotovleniia pechatnykh skhem. Leningrad, Gos.soiuznoe izd-vo sudostroit.promyshl., 1959. 76 p. (MIRA 12:6)
(Printed circuits)

9(2)

SOV/112-59-5-9921

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 213 (USSR)

AUTHOR: Frolov, A. I.

TITLE: Immersion Soldering of Printed Circuits Using Paper Templates

PERIODICAL: Radiotekhn. proiz-vo, 1957, Nr 14, pp 45-46

ABSTRACT: If mounting plates are simply immersed into a molten solder, all parts of the scheme will be tinned; to avoid this, templates are used. It is noted that aluminum templates covered by fiberglass very often do not protect the scheme from contamination. Paper templates are suggested instead. Printed-circuit soldering using paper templates comprises the following operations: (1) one side of the paper is coated with a glue; (2) 3-mm holes are made in the paper for leads soldering; (3) the paper template is carefully glued to the plate; (4) components are mounted in the holes according to their proper places; (5) the plate is covered with flux by dipping or spraying; (6) the plates are hot-air dried; (7) soldering is made by dipping the plates for

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Immersion Soldering of Printed Circuits Using Paper Templates

2-3 sec into POS-61 solder at 240°C; (8) the paper template is stripped off the plate, and the plate is washed in running water for 15 min.; (9) the plate is dried at 60°C for 20 min.; (10) the plate is coated with an insulating lacquer. The following can be used as a flux: (1) an alcohol solution of colophony (30 parts of colophony and 70 parts of alcohol by weight); (2) LPI-120 or the etheric flux that consists of 80 g of ethyl alcohol, 20 g of 96-per cent glycerin, 20 g of 45-per cent acetic acid, and 1.5 g of 20-per cent hydrochloric acid. The chemicals are added to each other in the above order, boiled for 3 hours, then cooled.

N.G.K.

FROLOV, A.I.

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2. USSR (600)

4. Wine and Wine Making

7. Kaplanbek State Farm is to turn out brand wines. Vin.SSSR 12 no.10, 1952.

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